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On the Genus *Macrocrates*, with Notes on Other Stagbeetles (Coleoptera: Lucanidae)

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In the "Monographia dos Lucanideos Brasileiros," Luederwaldt (1935) records three species in the genus *Macrocrates* Burmeister, *bucephalus* (Hope et Westw.) (1845), *formosus* Didier (1926) and *australis* Lued. (1934), the description of the last species based on two examples, a male and female, ex-collection J. P. Schmalz, in Museu Paulista, Sao Paulo, Brazil.

It will not be amiss to record here some pertinent data on the Schmalz collection, referred to above. The late J. P. Schmalz, Joinville, Brazil, at one time governor of the State of Santa Catharina, assembled during his life-time one of the largest privately owned collections of neotropical insects, chiefly Coleoptera and Lepidoptera, especially rich in Brazilian representation of the two orders. After the demise of J. P. Schmalz, the collection was brought by his nephew Albano Schmalz to the United States, for exhibition and eventual disposal to some institution of learning. Unfortunately the collection, while in transit for exhibition at Alva, Oklahoma, met an untimely and inglorious end, being entirely destroyed by fire.

It was my sad task to evaluate the loss, which duty enabled me to examine pertinent records, transcribing those pertaining to Lucanidae, chiefly concerning acquisitions, habits and collecting experiences from 1889 to 1913.

Among the records appears the following interesting memorandum: "2619. *Macrocrates bucephalus*. Hirschkäfer, schwarz

matt, Caput und Mandibeln rötlich braun. Ende März 1902 viele auf der Höhe der Serra do Ikerim, 1.300 Meter. Als *Macrocrates bucephalus* durch C. Felsche determ. Nach Burmeister und der Abbildung in Heynes Ex. K. in W. u. Bild¹ stimmt die Bestimmung jedoch nicht. Am 31 März 1903 fingen Rudolf, Carl und Adalbert, an der gleichen Oertlichkeit, 17 ♂♂ u. 3 ♀♀, und April 1904 wieder 12 ♂♂ u. nur 1 ♀ an dersell. Oertlichkeit."

From the preceding will be noted that the beetles are not uncommon, and that the "many" taken in 1902 and 29 ♂♂ and 4 ♀♀ in 1903 and 1904 were submitted to Carl Felsche for identification, who declared the insects to be *M. bucephalus*; he retained many duplicates, of course, of which the major part apparently went into the collection of Henri Boileau.

Evidently Albano Schmalz presented a pair of the beetles to the Museu Paulista before his departure from Brazil, from which Luederwaldt (1934) had drawn his description of *M. australis*, thus conclusively proving the insect's indicated misidentification; subsequently (1935) he published a photographic reproduction of both sexes of the species.

As mentioned previously, Boileau must have secured a good share of Felsche's specimens, Dr. Didier² recording 11 examples (8 ♂, 3 ♀) as *M. bucephalus* in the Boileau collection, now actually Didier's. A male, of maximum development, is figured by Didier (1933) and a good series of five males and a female is figured by Didier and Seguy (1953); in both instances Felsche's designation was used.

A careful comparison of the figures and examination of specimens establishes the fact that *M. australis* Lued. and *bucephalus* Didier (1933), not Hope and Westwood 1845, are conspecific, compelling us to consign *M. bucephalus* Didier into synonymy.

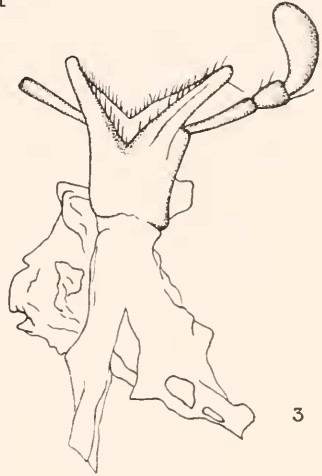
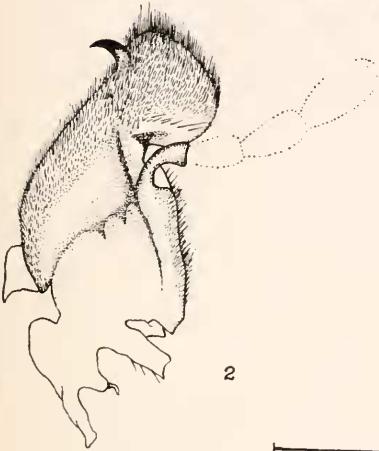
¹ HEYNE, ALEXANDER und OTTO TASCHEBERG: Die exotischen Käfer in Wort und Bild. Esslingen, 1908, 4to, 319 pp., 40 col. plates.

² DIDIER, R.: Études sur les Coléoptères Lucanides du Globe, fascicule 1, 1928, p. 22.

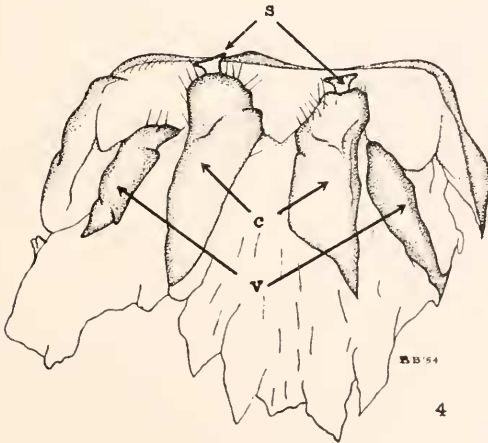
NAGELIUS PASSALIFORMIS (Benesh) ♀. Figures 1-4.

1. Antenna. 2. Maxilla. 3. Labium. 4. Genitalia.

s = styli c = coxites v = valvifers



1 mm



While examples of *M. bucephalus* (Hope et Westw.) (1845) were not available to him, Luederwaldt diagnosed the species by utilizing Burmeister's description of the male, and Dohrn's of the female, illustrating the "Monographia" by a figure, previously used by Parry (1864).³ This figure is misleading, in that the apical dentition of the mandibles is not precisely depicted, and the lateral angulation of the pronotum is grossly exaggerated; this inaccuracy accounts for Luederwaldt's straying and induced him to record *bucephalus* (Hope et Westw.) and *formosus* Didier as distinct species, when in fact they are conspecific and the latter an absolute synonym.

The two species should be catalogued as follows:⁴

australis Lued., Rev. de Ent. IV, 1934, p. 388; Rev. Mus. Paul. XIX, 1935, p. 510, tab. 2, fig. 15 ♀, 19 ♂, tab. 4, fig. 68.

bucephala Didier, La Terre et la Vie III, 1933, p. 25, fig. ♂, nec Hope et Westw., 1845.—Heyne et Taschbg., Exot. Käfer, 1908, p. 54, tab. 8, fig. 39 ♂.—Didier et Seguy, Encycl. Ent., A, XXVIII, 1953, tab. 94, figs. 1-5 ♂, 6 ♀.
Hab.—Southern Brazil: Serra do Ikerim.

bucephala (Hope et Westw.), Cat. Lucan. Coleop. 1845, p. 15, ♂, *Lucanus*.—Burm., Handb. d. Ent. V, 1847, p. 382.—Dohrn, Stett. Ent. Ztg. XXIII, 1862, p. 155, ♀.—Parry, Trans. Ent. Soc. Lond. (3) II, 1864, p. 44, tab. 10, fig. 9 ♂.—Lued., Rev. Mus. Paul. XIX, 1935, p. 509, tab. 3, fig. 39 ♂.

nigripes (Dej.), Cat., ed. III, 1837, p. 194, *Psalicerus*.—Boil., Trans. Ent. Soc. Lond. 1913, p. 237.

longicornis Burm., nom. nud., Parry, loc. cit. (3) II, 1864, p. 86.

rotundicollis Gory, nom. nud., Boil., loc. cit. 1913, p. 237.

formosa Didier, Bull. Soc. Ent. Fr. 1926, p. 83, fig. ♂.—Lued., Rev. Mus. Paul. XIX, 1935, p. 513, tab. 3, fig. 38 ♂.
Hab.—Northern Brazil (teste: Luederwaldt, 1935).

Nigidius passaliformis Benesh

Ever since the acquisition of specimens of *Nigidius* (*Eudora*) *madagascariensis* (Cast.), which species was unknown to me in

³ Not recorded by VAN ROON in Coleopterorum Catalogus, Pars Lucanidæ, 1910.

⁴ According to BLACKWELDER (1944), the generic name *Macrocrates* is of feminine gender requiring alteration of specific names.

nature, I have been doubtful of the sexual designation of *N. passaliformis* Benesh, described in *Psyche*⁵ several years ago. In examining the female *madagascariensis*, I so readily perceived its close affinity to *passaliformis* that I began to wonder whether my designation of the *passaliformis* type as male was correct. To satisfy my doubts, and rectify if necessary the probable error, I had applied for permission to dissect and examine the genitalia of the type, which privilege, it is needless to say, was graciously granted.

I am deeply obligated to Dr. P. J. Darlington, Jr., Curator of Coleoptera, Museum of Comparative Zoology, Harvard College, Cambridge, Massachusetts, for permission to dissect, examine and report on the sex of the type of *Nigidius passaliformis* Benesh, and to Monsieur Melchior de Lisle, director of public works, Douala, Cameroon, for specimens of *Nigidius (Eudora) madagascariensis* (Cast.) used for comparison; to both my heartiest thanks.

The examination of the genitalia of *N. passaliformis* (fig. 4) proves, beyond the shadow of a doubt, that I had erred in designating from external appearances the type as male, having been misled by the large mandibles, as long, if not longer (the apices are broken off), than the head. I am now fully convinced that when the still unknown male is discovered, it will closely approximate to *madagascariensis*.

As belonging to FIGULINÆ, both sexes have the inner maxillary lobe (lacina) (fig. 2) hooked or uncinuate; figures 2 and 3 depict the buccal appendages, maxilla, and labium respectively, and as will be readily perceived, both are somewhat damaged, deterring us from presenting a complete description. The antenna (fig. 1) is typically figuline, short and stout, with scape, funicle and clava glabrous, clava 3-jointed, flattened, with spongy sensory area confined to anterior face of the segments.

According to Burmeister (1847), the members of FIGULINÆ have "maxillarum mando utriusque sexus corneus uncatu," a character subsequently utilized by Westwood (1855), but ridi-

⁵ BENESH, B.: Descriptions of some new exotic species of Stag-beetles. *Psyche*, L, 1943, p. 37-48, pl. 4, figs. 1-7.

culed by Lacordaire (1856), who declared it an "insignificant peculiarity." The character is in use today, although sporadically or entirely disregarded, in addition to readily discernible external characters. Another hitherto unrecorded character, utilized by the writer in separation of major groups, such as tribes and subfamilies, is the female genitalia, which may be either simple or bearing styli (fig. 4); the character, being constant, is a better criterion for sectional characters than the antennae, mandibles, striation of elytra, or spination of the tibiae, the last of doubtful value, as it may vary in the same species, depending on individual development.

***Eudora madagascariensis* Castelnau**

In the examination of *Eudora madagascariensis* Cast., I had been so struck by its distinctive habitus that I readily concur in Burmeister's⁶ view, the species should form a separate genus; accordingly I have attempted to resurrect and validate the name *Eudora* and discovered, to my astonishment, that the name had been previously used five times, as early as 1800 in Coelenterates.

I therefore propose for *Eudora* Castelnau (1840), the name *Nagelius*, to honor a lucanologist of long standing, Herr Paul Nagel, who had materially increased our knowledge of Lucanidae, and designate *Eudora madagascariensis* Castelnau as the type of the genus.

The genus *Nagelius* can be readily distinguished from the other genera of FIGULINI and NIGIDINI, by being dimorphic, with mandibles without an upper, inward directed, basal tooth or horn, canthi not produced posteriorly into projecting apophyses, anterior angles of pronotum without alar laminae, etc.

Assigned to the new genus is also *Nigidius passaliformis* Benesh, readily separated from the female of *madagascariensis* by its larger size, dissimilarly denticulate mandibles, and having the disk of pronotum foveate.

⁶ Translation: "this distinctive group many would define as a separate genus, as valid and justified as the separation of the genus *Cardanus* from *Figulus*."

We also place here, with some doubt, *Nigidius nageli* Kriesche (1926), solely for its comparison with *madagascariensis*. *N. nageli* is purported to have the ocular canthus laterally strongly indented, posteriorly strongly arcuate, post-ocular apophyses much weaker, the front of head depressed and finely punctuate, elytral striation more even and lighter; the mentum less punctured, and with a button-like median flat elevation. Length: 19 mm.; greatest width (pronotum) 6 mm. (by *madagascariensis* ♀ of like development, 7 mm. plus), and recorded from Madagascar.

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Membracidae Attracted to Light¹

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In our tests with light traps during the past eight years, tree-hoppers or Membracidae have been taken in comparatively small numbers, seldom one per trap per night. The numbers have been so insignificant that we have kept no definite records. They have never been reported in abundance by other work-

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